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Contributed Articles.

On Important Apiarian Subjects.

Planting the Basswood or Linden.

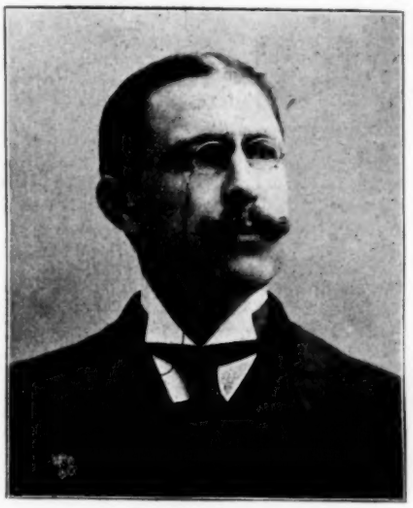
BY R. S. RUSSELL.

As this most beautiful and useful tree is being recklessly slaughtered in every locality of our country by the thoughtless, and is rapidly becoming extinct in many places, it seems that some means must be speedily adopted to perpetuate and protect it if it is to live outside of history. Its vastly superior qualities for so many uses make it the favorite of the factories that send their agents *en masse* to hunt it down, and as it does not make a lasting rail or post, it is purchased of the farmer very cheap, and delivered to the slaughter-house. But what

American Basswood or Linden.

are we going to do about it? This is a free country, we are told, and that "money talks;" and that syndicates, pools and monopolies have equal rights to liberty and the pursuit of happiness, and have a right to take the earth if they can buy or corner it. Thus it is seen we need not expect government protection for the linden, but must look in another direction for the desired remedy.

My own experience prompts me to advocate object lessons as the very best step to be taken, and no person will ever regret having tried the experiment. I will tell why I know so. Just three years ago I put out 80 rods of very thrifty trees, 15 to 18 feet high, and 33 feet apart, in a straight line, for partition fence between my woods, pasture and cleared land; also a few nice ones in the front yard, orchard, and barn lot.



Mr. D. E. Merrill—See page 173.

The next year a lot more were put in vacancies in my woods, and this year another fence, and some nice ones in my lawn, and I must say the result is most beautiful to behold, both in spring and summer, and is the admiration of the neighborhood.

The first planted trees are from 3 to 4 inches thick at the ground, and over 20 feet high. Their straight, well-sloping, heavy bodies, and small neat tops, make them just right for fence posts, and good shade for stock in summer, and windbreaks in winter. In June this fence is most beautiful, being a mass of richest flowers, dripping with honey and swarming with bees, and any one passing at this time will be at once attracted by the sweet fragrance of the air, with its unparalleled aroma; and if he is not dead to the charms of the beautiful, he will ponder long at the sight, and never again will he doubt that the linden is entitled to first position as the most beautiful tree of America.

There are several varieties of linden here, varying from one to over two weeks in the date of bloom, making a successive honey-flow for over three weeks, all of which I have tried to secure in my planting, which now numbers about 200, valued at over $1,000. My object in planting the first was experimental, little thinking others would notice my nonsense, but imagine my surprise when I saw many of my neighbors, who did not keep bees, hustling far and near for linden trees instead of cottonwood and maples. From this I conclude we hold the destiny of our favorite in our own hands.

Let each bee-keeper, on or before next Arbor Day, have

some fine specimens growing at his home. Trim and cultivate well the first year; the second year they will bloom, and from that on the young lindens of your vicinity will be taken care of as never before. The eagle eyes of your neighbors will make the discovery that they have planted the wrong trees, and will strive to their utmost to get in line by the shortest route.

The best trees are found in second growth woodland, where the large timber has been removed about five years, and can usually be obtained for the asking. The transplanting may be done any time from fall until the leaves are out in spring. As many roots as possible should be taken with the tree, and all the limbs cut back to 10 inches, the ground well tampt and pulverized around the tree when again in position, with a good mulch on top for dry weather, and every tree will grow nicely, and should be hoed once a week the first season.

I will say in looking for the first-named trees, do not fail to notice the little one and two year olds that you are tramping over, as they are also valuable. They are easily taken up, and should be set in rows 3½ feet wide and 8 inches apart, and cultivate the same as corn. They are rapid growers, and will surprise you the first year with their beauty, and, if a fair season, they will be 5 and 6 feet high, and may be transplanted at any time. Trees grown in this manner are far more vigorous, and will produce at least twice the amount of bloom and honey of those reared in competition with other timber.

Our lives are short, yet in this we bequeath a noble example, and the greatest part of the blessing to future generations, who will rejoice at each succeeding honey harvest for untold ages to come, that they are blest with a supply of beautiful linden honey, and no doubt often bless the names of the fathers for thus perpetuating this greatest honey-tree.

Zionsville, Ind.

No. 4—Extracted Honey, and the Size of Hives.

BY CHAS. DADANT.

I think it will not be out of place here to say why I prefer large to small hives, and consider them as better for the production of extracted, or even of comb honey.

One day, years ago, I went to the auction sale of a farmer to buy a cow. This man had six colonies of bees in common boxes; the movable-frame hives were but little known at that time. The weather was cold, it was in March, and it was impossible to judge of the strength of the colonies by the flight of the bees. The hives were all small but one, which was unusually large. I stooped behind the hives, tapping upon them with my finger, and placing my ear against the box. The answer of each of the small hives was, "F-ssss." The answer of the large hive was "B-rrrrr." I was satisfied. The small hives sold for $3.00 to $4.00 each. I bought the large hive with bees for $7.25, and it was a good bargain. Bees were scarce and honey was high, at that time.

Very soon after, I transferred this colony to a 14-frame American hive, and, to fill all these frames with worker-combs, I had to add a few pieces taken from colonies that had died during the winter, which I had purchased from neighbors. The spring crop of this colony exceeded 160 pounds, not of extracted, but of comb honey, which was sold at 25 cents per pound. This first crop was sufficient to pay not only for the colony itself, but also for the cow which I had bought at the same sale.

The crop of the other five colonies, purchased by another man, amounted to nothing, comparatively. How do I explain the difference in yield? The queens of these small hives had not, during the previous season, had sufficient room to lay; while, in the large hive, the queen had room enough to make use of all her fecundity; so, while the small hives maintained but a small population the year round, the colony in the large hive kept a stronger force, wintered better, had more honey stored in its capacious quarters for spring breeding, and was at all times ready for any emergency.

This question of the prolificness of the queen has thus far been much neglected by many bee-keepers. They want cheap hives; but these small, cheap hives are comparatively dearer, just like the five small-hive colonies of the above-mentioned auction, which had cost their purchaser more than twice as much as my large one, and yielded less honey all together than my large-hive colony did.

For a number of years, I have kept an observatory hive, to watch the work of the bees, and I have often noticed that a queen could lay 6 eggs in a minute. Other observers, Dzierzon and Berlepsch, have noticed the same thing, and my experience was but a repetition of theirs. Thus a queen can lay 360 eggs in an hour, 3,600 in 10 hours. Of course a queen cannot, and does not, usually lay during more than 10 to 12 hours per day, in a good laying season, for she needs rest. The laying of the queen is very much governed by the workers, which give her more or less food, and by other circumstances, such as the warmth and the bustle of the colony. In winter, for instance, the bees are all quiet and eat only what is indispensable to sustain life and warmth. The heat is just sufficient to keep them alive, and the queen does not lay at all. But as soon as the sun warms the air, the bees fly out, coming home with more appetite. After filling their stomach, if they meet the queen, they offer her food; for this seems to be a natural custom among the bees, a token of their appreciation of the value of their mother. She accepts the food and soon begins to lay. The more honey is carried about, the more food is offered to her, the greater the bustle, the greater the laying, and she lays according to the number of bees living in the hive; since a large number of bees keep a larger surface warm, and the queen will not lay, and eggs will not hatch, in an area that is not kept warm by them. It is thus evident that a large population thrives better and causes an earlier and stronger spring breeding.

Now comes the question of the size of hives. If queens can lay an average of 3,500 eggs per day, how many cells will be needed to contain the brood of the colony, during the spring breeding, previous to the honey crop?

The egg is not usually changed into a worker-bee in less than 21 days, from the time it is laid in the cell. Then we need a number of cells equal to 3,500 multiplied by 21, or 73,500 cells, in addition to the cells that contain the indispensable provisions—honey and pollen—which cannot be less than 20,000; especially when we think that some cells must of necessity remain empty at times, as the queen can surely not find every empty cell every day. This gives us 93,500 cells as the number necessary for a good queen in a good colony.

We use a hive with large Quinby frames containing 180 square inches each, which, at the rate of 55-worker-cells to the square inch, gives us 9,900 cells to each frame, or 99,000 cells for the ten combs. This, from experience, we find is a good size, and if we had to change it we would rather increase than decrease it; for a strong colony needs more room for honey and pollen than a small colony does.

If we now figure the number of cells contained in a standard Langstroth frame, we find 7,800 cells to each comb, or 78,000 cells for a ten-frame hive. Deducting 20,000 cells for honey and pollen we have but 58,000 cells left for the queen to breed. She is therefore compelled to limit her laying to 2,800 eggs per day, or a little less. The reason why so many people favor small hives is that they have never tried large ones; most bee-keepers having considered the ten-frame Langstroth hive as a large hive; while it is what we call a small one.

The result is the opposite of what might be expected. The colony, being small, winters with more loss, has less honey in spring, the breeding begins later, the queen does not become encouraged to lay as early and plentifully as she otherwise should, and if the season has but a few good honey-yielding days the bee-keeper decides that his hive is too large. Thus we hear bee-keepers assert that the 8-frame hive is even too large, and they want to try a 6-frame brood-chamber, which would reduce each queen to less than the minimum capacity.

I have just read the last number of Gleanings, in which Friend Doolittle favors the 8-frame hive.

He says: "If a colony of bees having a good prolific queen is given 30 Langstroth frames, using but eight to start with, and adding two or three at a time, the bees can occupy them, until the thirty are all in, it will be found that such a queen will lay from 5,000 to 6,000 eggs per day during the best part of the egg-laying season, and die of old age, or exhaustion, when but 18 to 24 months old; while with the 8-frame brood-chamber she will give as good results, in comb honey, if not better, each year, and live four or five years."

I have tried Quinby hives, 32 of them, with 14 frames, having a capacity of about 139,000 cells, for a number of years. I have a few of these hives yet, and I have never seen a queen laying 126,000 eggs in 21 days, and it was after trying all these experiments that I have concluded that 10 or 11 Quinby frames were about the right number for a good queen. But if there are queens that can lay that many as Doolittle asserts, let us have them, and give them all the room they can fill during the spring months; for a queen of that kind would give us a working capacity of more than twice the average of the queens in small hives, and therefore a honey crop more than doubled. The premature death of such a queen, which Doolittle asserts would be the result of such extraordinary laying, would not worry me, and should not

worry any one, for practical bee-keepers are well aware that bees readily replace failing queens most of the time without the knowledge of the bee-keeper. Such queens would simply be a fortune for a bee-keeper with large hives.

But how is a bee-keeper with 9 Gallup frames, or 8 Langstroth frames, to discover such a marvel as a queen that is capable of laying 6,000 eggs in 24 hours, since his hive confines her to a capacity of about 2,000 eggs per day? Yet it would be a treat to find such a queen, and to breed from her, and this discovery would be of more importance than that of the five-banded bees, for is it not bees and honey that we want?

I must say that if we did not have any queens that were found to lay 6,000 eggs per day, we had none, either, that died of exhaustion in 18 to 24 months. The queens that died early, with me, were regularly those which were of poor health and poor layers, usually queens that had been in-bred too long. We used to rear queens for sale, and kept a slate on the back of each hive, and those queens that were in the largest hives made as good an average of life as the queens that were in smaller hives.

Friend Doolittle adds: "It is well to remember that all queens are not equally prolific, and while 20 per cent. of our queens would keep the brood-chamber of a 10-frame Langstroth hive properly supplied with brood to give the best results in section honey, the other 80 per cent. would not be prolific enough to do so." This shows that if Doolittle has the most prolific queens in existence, he has also some of the poorest breed, since 80 per cent. of them are not able to lay 58,000 eggs in 21 days.

On this question I wish to bring forward a very reliable testimony from one of our largest honey-producers. In Gleanings, page 45, our friend, E. France, says:

"If I had a queen that did not equal eight frames of brood during the breeding season, she is no queen for me. With our Langstroth frames we keep the lower story of eight frames full of brood, and the surplus [he keeps a two-story brood-chamber] brood-combs we make into new colonies. In that way I made 45 new colonies this year (1894) from 95 old ones, and every one of the new ones were given eight good brood-combs—360 brood-combs, or an average of nearly four combs from each queen."

Here, then, is a man who had 95 colonies, last year, that averaged 12 combs of brood during the height of the breeding season. This man made a net increase of 45 colonies from the surplus capacity for laying of his 95 queens. These 95 queens averaged, if I figure it right, 3,700 eggs each per day during the best time. This number confirms what we say in "Langstroth Revised," that it is not uncommon to find queens which lay more than 3,500 eggs per day for several weeks in succession during the breeding season. Yet it was with reluctance that we had made this assertion, for we were among the first who had noticed so great a fecundity in queen-bees.

Doolittle thinks it is better not to rear bees in large numbers before or after the time when their presence in large numbers is needed, because "we not only have the cost of their perfecting to pay for, but the cost of their consuming after being perfected, as well."

The five small-hive colonies, sold at the auction mentioned by me, were of the size preferred by Doolittle. They had not perfected too many workers when a surplus of bees was no longer needed for the honey crop. Yet, the large-hive colony, which reared and perfected a large number of bees, even after they were no longer needed for the honey crop, and which had to bear the cost of their sustenance afterwards, gave the largest profit.

Let me add that a few years ago, we transferred a large number of colonies in 10-frame Langstroth hives into larger hives, because we were tired of the uniformity with which we had to feed their bees in seasons of short crops, while many of the large-hive colonies would yield a little surplus. These hives are now piled up behind our honey-room, waiting to be split into kindling-wood. Would we have been better satisfied with still smaller hives? Hamilton, Ill.

Something Historical—Florida Prospects.

BY CAPT. R. H. M'INTYRE.

I commenced working with bees while I was Steward of the United States Hospital for the Insane, at Washington, D. C. I was so fortunate as to have the late Samuel Wagner (the first editor of the American Bee Journal) for my teacher—I think it was in 1866 and 1867. He then lived in Washington, and had an apiary in a suburb called Uniontown, just across the Potomac river from the Navy Yard. He was a patient, careful instructor, and with his help I built up a large apiary out of a few colonies, in every conceivable kind of hive. I adopted the Langstroth hive, and have never yet changed my mind as to its standing at the head.

In 1869 I came to Florida, and had quite an apiary at Daytona, on the beautiful Halifax river, but I was a few miles too far north for the mangrove. There was a man named Lewis, who kept bees at New Smyrna. It was Mr. Lewis that first found out that the mangrove was a honey-producer.

I owned the first honey-extractor used on the Coast, and one year I took about 1,000 pounds of honey. The past season there was over 200 tons taken, but the freezing killed the mangrove to the water, and it will be at least five years before it will bloom again.

I went out of bee-keeping about 12 years ago. I then made hives and frames, and reared early queens. I am vain enough to think that my work did a great deal towards starting what has since grown to be a large business.

Ill health, caused by exposure and wounds in the late "unpleasantness," has compelled me to commence with bees again. I bought 6 colonies last spring, increased to 20 in all—all fine colonies of mostly pure Italians. A few are hybrids, but I shall change them as soon as the drones fly.

The freeze has injured the honey prospect very much. My bees are bringing pollen and honey every fair day. There was not a day until Dec. 24, 1894, that they did not bring pollen, and on most days some honey.

I was a subscriber for the first volume of the American Bee Journal; it was then a monthly, not quite as large as the weekly is now. "May its shadow never grow less."

Bro. A. I. Root was in our vicinity a short time ago, but I was away and did not meet him.

Our peach trees are now (Feb. 4) in full bloom, and the bees are busy on them, but I think they get mostly pollen.

I shall be glad to answer any questions in regard to Florida, to those who send an addressed, *stamped* envelope. I am well acquainted with the Peninsular part of the State, on both the Atlantic and Gulf, as I have lived in the State 25 years.

I was Captain of Co. K., 72nd Ind. Vols., Wilden's Brigade. I should be glad to hear from any old soldier, whether he wore the "blue" or the "gray." Port Orange, Fla.

A Number of "Kinks" Worth Knowing.

BY GEO. W. STEPHENS.

Removing Propolis From Hands.—Someone asked a few weeks back for a recipe for removing propolis from the hands. I think I can answer that. I know of nothing for the purpose equal to soap and water; but there is quite a knack in doing it even with soap and water. Use plenty of soap and not much water; rub the hands together in the lather until the propolis is dissolved, then wash in the water. If any propolis yet remains, lather and wash again. The meanest kind of propolis will let go thus treated. Any soap will do, but laundry soap will accomplish the object the quickest, although it might be too strong for some hands.

Finding Queens.—If you have a queen that is wild and difficult to find, and you are anxious to interview her, instead of shaking the bees out on the ground and straining them through perforated zinc, place in the hive a queen-cage that has lately held a queen. In about an hour, or a little less, open the hive, and nine times in a dozen you will find her "adel" highness in the cage looking for a supposed rival.

Self-Hiving Bees.—A friend of mine left an empty hive sitting close alongside one with bees in it. One day he saw the bees marching from the full hive into the empty one, the queen with them. They took possession and went to work just as lively and as contentedly as if they had first clustered on a high limb. Perhaps bees could be educated to always swarm that way. Queen-breeders might take a hint from this. These were 3-banded bees.

Making Sugar Syrup for Feeding.—To make licking-good sugar syrup for feeding, put sugar and *cold* water together in a vessel and let stand 10 to 15 hours, stirring freqently. Then warm it until the sugar is all dissolved, but do not boil or let it get very hot. It will not granulate any sooner, if at all, than if it had been allowed to percolate through a flannel rag. Your wife, sister, mother, or mother-in-law, could tell you, if you would only ask them about it, that to make sugar syrup for the table as is often done, that will not granulate, they warm it up from cold water.

Cure for Outside-Clustering Bees.—In hot weather during a honey-flow, when bees ought to be at work in the

sections, but instead are loafing in clusters at the entrance, ventilate them a little by placing a ten-penny nail under the edge of the cover, and see how quickly they will go to work. It may help to warp the cover a little, but you'll get more honey. When it gets too hot in the hive the bees have to come out to get a breath of fresh air, just like people. When the field-bees come in loaded and find the rest of the family out on the veranda on account of the suffocating heat on the inside, they don't go in and unload, but remain with their sisters, and the cluster gets larger and longer until it grows cooler inside.

PREVENTING DAMPNESS IN CELLAR-WINTERING.—If your bees are in the cellar, and you see water running out at the entrance, it is evident they are not in the best condition for wintering. There should be no water dripping at the entrance. The inside of the hive is damp, and bees cannot stand the cold as well as when hive and cellar are dry. The cold air coming in contact with the warm air in the hive condenses and forms drops of water on the under side of the cover, and, when they become heavy enough, drop on the bees and run out at the entrance. Of course, you might tip the hives a little and the water would run along the cover and down at the end, but it would be damp all the same. To prevent this, fill a muslin flour-sack about half full of sawdust, chaff, or other material, and spread it evenly over the frames, first putting on an empty super or hive-body; then put on your cover over the super, but leave a crack along one side about as wide as a bee-space—just so a mouse can't get in. The sawdust being a non-conductor, the heat of the cluster will remain with the bees, but all dampness will escape up through and out at the crack. If the opening were not left, the moisture would collect in drops on the under side of the cover above the sawdust. Put sticks across the frames to hold the cushion up a little, or, better yet, leave the wood-zinc honey-board on, sealed. I have tried both ways. I also once tried sealed covers—and only once—and I never will again.

My 23 colonies are now (Jan 26) in the cellar along with the vegetables, packed as above and are quiet as kittens—comparatively few bees crawling out to die on the cellar-bottom. I see them every day. The temperature of the cellar is 26° to 45°—owing to the weather outside. But the bees are not very particular about the temperature, so they are dry.

Denison, Iowa.

Too Much "Monkey Work" With Bees.

BY J. W. BITTENBENDER.

Bee-keepers, as a rule, monkey too much with their bees, and often ruin the bees and the bread-and-butter side of the question. I am writing on this subject from experience and not theory.

In the spring of 1873, I purchased my first eight colonies of bees in movable-frame hives (Langstroth). Two of the hives contained crooked combs, so I could not remove them, and being inexperienced, and as I never saw a bee-hive opened by any one, I left them to remain so for the season. But in order to become master of the art, and being like the watch-maker—must take a bee-hive all apart and put it together in order to be a practical bee-keeper—I purchased a Quinby bee-smoker, and with part of a lady's face-veil I undertook the much-dreaded task.

My first lesson was a success, and much encouraged my enthusiasm. On this I gained much self-confidence, and felt able to make experiments. Six of the eight colonies was all I could work with, and as the other two hives contained crooked combs, and they were not very strong in bees, I did not think that they would do more than build up and be able to be ready for winter at best. I also obtained Quinby's book and Mrs. Tupper's, and subscribed for the American Bee Journal, then a monthly. By reading this morning and evening, and monkeying with my bees in the warmest part of the day, I passed the summer days very pleasantly, if not very profitably.

I had my six movable-comb hives all in good trim, and my regular work on every fine day was to open each hive two and three times a day to see whether all things were running right, and in good order. When the warm June days came, I noticed that the two colonies I could not monkey with were getting very populous, but did not stop to think or reason that perhaps I was monkeying too much with the other colonies.

But I reasoned thus: That with my assistance and management, when white clover was in full bloom we (the bees and I) would show them what we could do, as their hives only contained old rickerty rackerty crooked combs, anyhow, and we (the bees and I) had everything in tip-top condition. And as the dividing fever was running high in those days we could divide and make as many colonies as we pleased, and better ones, too, as colonies were the object those days.

The old rickerty rackerty colonies were still getting stronger; but still came the thought that they had crooked combs and the frames were all tangled up—that was the reason they looked so strong. There could not so many bees get into the hives, and they only *looked* strong.

But hurrah! hurrah! here comes a rattling large prime swarm out from one of the rickerty rackerty old hives, and in a few days out came one from the other hive. "All right" says bees and I, "we will divide, if that is the way you want to do it." So bees and I divided, although not a queen-cell in any of the six finely arranged hives. I divided them by taking half of the combs and placing them in a new hive, as in those days there was not much known about comb-foundation, so the hives were filled up with empty frames, and the division that had no queen was left to rear their own queen. This was a great disadvantage to them.

But about this time out came the second swarm from the rickerty rackerty hives! as swarms was the object, I also hived them, as they were good-sized second swarms. But lo, and behold, how could I make second swarms from the finely-arranged colonies, already weak and puny?

Knoxville, Iowa.

[To be continued.]

Dequeening to Prevent Increase, Etc.

BY WILMER W. M'NEAL.

On page 78, under the heading, "Experience with Dequeening," C. H. Chapman tells us that, "increase can be controlled to our liking" by that method, but then puts the key back into his pocket, because—well, simply because he says he is no author.

To relate clearly, yet briefly, in writing, an experience in the bee-yard may or may not be an easy thing to do. That, however, is not the point at issue. What we want is not particularly a knowledge of a man's ability as a writer, but what he knows pertaining to the practical side of bee-culture.

The majority of us are yet a long way from having any thing like a corner on the prevention of swarms, and will hail with abundant welcome anything relative thereto. I wish Mr. C. would even tell us how many colonies figured in the experiment. Dequeening is something I never tried for the prevention of swarms. My observations along the line in question have led me to believe that swarming is taken on principally by the field bees. A persistent crowding upon the brood-combs by the young bees will result in swarming. When this younger element can be induced to move out and away foom the brood-chamber, or an equivalent—the placing of a case of shallow combs under said apartment—swarming need not be looked for until the field bees are again crowded for elbow-room. I think a field bee, when loaded with honey and pollen, rarely, if ever, goes above and beyond the confines of the queen; for proof of this I cite the absence of pollen in the sections. A young bee is very timid, and will begin work much sooner if the "starter" is in the bottom of the section-box colse to the bees' familiar surroundings; afterwards reversing the case, teaching them downward growth in comb-building.

FASTENING FOUNDATION.—For putting in foundation, a piece of common window-glass and a cup of hot water suits me very well; occasionally dipping the glass into the water, then pressing it against the wax before cooling.

REQUEENING AND NON-SWARMING.—Requeening early in the season scores a point in favor of non-swarming, but super-induces the bees to build drone-comb in the section.

WING-CLIPPING.—Clipping the queen's wings down to mere stubs, as far as tried by myself, is not entirely without merit.

Wheelersburg, O.

"The Giant Bee of India."

BY C. D. HOLT.

This bee was brought from Ceylon to the United States in 1891, and is distinguished from our bees by its giant size, and the manner of obtaining honey from flowers that the common bee cannot gather from. The Indian bee (*Apis dorsata*), with its front feet, and large, strong mandibles, tears open any flower that it can't reach the honey with the tongue, and gathers nectar where no other bee could enter. It is one-half size larger than the Cyprians, but gentler and easier to handle than the Italians. While they will not gather any more honey

than either of the above, yet the crosses of the giant and Italians gather more than twice the amount of any race of bees known.

The full-blooded Indian queen is not as prolific as our natives, but she and her workers live longer. The workers live through the season of six or eight months instead of two or two and a half, as with our common bee. The great advantage of this bee is in crossing. By using an Indian drone and an Italian queen, her half-breed workers partake of nearly the size of the Indian bee—their gentle dispositions, their ability to go into any flower—red clover, pea-blossoms and all—and their indisposition to swarm.

The full-bloods swarm but once in a season, under any circumstances, and you can hardly make them rear more than two young queens at a time in one colony, and but few drones. The young queens are generally fertilized in the hive, or on the ground; put a young Italian or black queen in a cage with an Indian drone, and he will fertilize her at once, and will fertilize as many as four queens before he stops.

The above is as nearly correct as I can give, but I am satisfied that this bee is of greater importance to us than any other strain or family of bees. They and their crosses don't tolerate moth or any enemy to prey on their stores.

For a more minute description of them, see special bulletin of our Agricultural Department for August, 1891, and a short notice in the report of 1893, page 201.

[Mr. Holt lives in Kentucky, and claims to have the bees which he describes. I do not believe in discouraging new things too much, but I would suggest, before anybody "goes wild" over the above-described "giant bees of India," that these bees be experimented with by a few bee-keepers like Hon. R. L. Taylor, Dr. C. C. Miller, Hon. Eugene Secor, and other equally reliable and prominent men in our ranks. It does not pay to rush after new and untried things too much, and until fair and impartial trial has been given, I would say, "go slow."

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BY J. C. BALCH.

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Orillia, Wash.

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We are far in advance of the generation that preceded us, not only in bee-knowledge but in knowledge of all kinds, and

sections, but instead are loafing in clusters at the entrance, ventilate them a little by placing a ten-penny nail under the edge of the cover, and see how quickly they will go to work. It may help to warp the cover a little, but you'll get more honey. When it gets too hot in the hive the bees have to come out to get a breath of fresh air, just like people. When the field-bees come in loaded and find the rest of the family out on the veranda on account of the suffocating heat on the inside, they don't go in and unload, but remain with their sisters, and the cluster gets larger and longer until it grows cooler inside.

PREVENTING DAMPNESS IN CELLAR-WINTERING.—If your bees are in the cellar, and you see water running out at the entrance, it is evident they are not in the best condition for wintering. There should be no water dripping at the entrance. The inside of the hive is damp, and bees cannot stand the cold as well as when hive and cellar are dry. The cold air coming in contact with the warm air in the hive condenses and forms drops of water on the under side of the cover, and, when they become heavy enough, drop on the bees and run out at the entrance. Of course, you might tip the hives a little and the water would run along the cover and down at the end, but it would be damp all the same. To prevent this, fill a muslin flour-sack about half full of sawdust, chaff, or other material, and spread it evenly over the frames, first putting on an empty super or hive-body; then put on your cover over the super, but leave a crack along one side about as wide as a bee-space—just so a mouse can't get in. The sawdust being a non-conductor, the heat of the cluster will remain with the bees, but all dampness will escape up through and out at the crack. If the opening were not left, the moisture would collect in drops on the under side of the cover above the sawdust. Put sticks across the frames to hold the cushion up a little, or, better yet, leave the wood-zinc honey-board on, sealed. I have tried both ways. I also once tried sealed covers—and only once—and I never will again.

My 23 colonies are now (Jan 26) in the cellar along with the vegetables, packed as above and are quiet as kittens—comparatively few bees crawling out to die on the cellar-bottom. I see them every day. The temperature of the cellar is 26° to 45°—owing to the weather outside. But the bees are not very particular about the temperature, so they are dry.

Denison, Iowa.

Too Much "Monkey Work" With Bees.

BY J. W. BITTENBENDER.

Bee-keepers, as a rule, monkey too much with their bees, and often ruin the bees and the bread-and-butter side of the question. I am writing on this subject from experience and not theory.

In the spring of 1873, I purchased my first eight colonies of bees in movable-frame hives (Langstroth). Two of the hives contained crooked combs, so I could not remove them, and being inexperienced, and as I never saw a bee-hive opened by any one, I left them to remain so for the season. But in order to become master of the art, and being like the watch-maker—must take a bee-hive all apart and put it together in order to be a practical bee-keeper—I purchased a Quinby bee-smoker, and with part of a lady's face-veil I undertook the much-dreaded task.

My first lesson was a success, and much encouraged my enthusiasm. On this I gained much self-confidence, and felt able to make experiments. Six of the eight colonies was all I could work with, and as the other two hives contained crooked combs, and they were not very strong in bees, I did not think that they would do more than build up and be able to be ready for winter at best. I also obtained Quinby's book and Mrs. Tupper's, and subscribed for the American Bee Journal, then a monthly. By reading this morning and evening, and monkeying with my bees in the warmest part of the day, I passed the summer days very pleasantly, if not very profitably.

I had my six movable-comb hives all in good trim, and my regular work on every fine day was to open each hive two and three times a day to see whether all things were running right, and in good order. When the warm June days came, I noticed that the two colonies I could not monkey with were getting very populous, but did not stop to think or reason that perhaps I was monkeying too much with the other colonies.

But I reasoned thus: That with my assistance and management, when white clover was in full bloom we (the bees and I) would show them what we could do, as their hives only contained old rickerty rackerty crooked combs, anyhow, and we (the bees and I) had everything in tip-top condition. And as the dividing fever was running high in those days we could divide and make as many colonies as we pleased, and better ones, too, as colonies were the object those days.

The old rickerty rackerty colonies were still getting stronger; but still came the thought that they had crooked combs and the frames were all tangled up—that was the reason they looked so strong. There could not so many bees get into the hives, and they only *looked* strong.

But hurrah! hurrah! here comes a rattling large prime swarm out from one of the rickerty rackerty old hives, and in a few days out came one from the other hive. "All right" says bees and I, "we will divide, if that is the way you want to do it." So bees and I divided, although not a queen-cell in any of the six finely arranged hives. I divided them by taking half of the combs and placing them in a new hive, as in those days there was not much known about comb-foundation, so the hives were filled up with empty frames, and the division that had no queen was left to rear their own queen. This was a great disadvantage to them.

But about this time out came the second swarm from the rickerty rackerty hives! as swarms was the object, I also hived them, as they were good-sized second swarms. But lo, and behold, how could I make second swarms from the finely-arranged colonies, already weak and puny?

Knoxville, Iowa.

[To be continued.]

Dequeening to Prevent Increase, Etc.

BY WILMER W. M'NEAL.

On page 78, under the heading, "Experience with Dequeening," C. H. Chapman tells us that, "increase can be controlled to our liking" by that method, but then puts the key back into his pocket, because—well, simply because he says he is no author.

To relate clearly, yet briefly, in writing, an experience in the bee-yard may or may not be an easy thing to do. That, however, is not the point at issue. What we want is not particularly a knowledge of a man's ability as a writer, but what he knows pertaining to the practical side of bee-culture.

The majority of us are yet a long way from having any thing like a corner on the prevention of swarms, and will hail with abundant welcome anything relative thereto. I wish Mr. C. would even tell us how many colonies figured in the experiment. Dequeening is something I never tried for the prevention of swarms. My observations along the line in question have led me to believe that swarming is taken on principally by the field bees. A persistent crowding upon the brood-combs by the young bees will result in swarming. When this younger element can be induced to move out and away foom the brood-chamber, or an equivalent—the placing of a case of shallow combs under said apartment—swarming need not be looked for until the field bees are again crowded for elbow-room. I think a field bee, when loaded with honey and pollen, rarely, if ever, goes above and beyond the confines of the queen; for proof of this I cite the absence of pollen in the sections. A young bee is very timid, and will begin work much sooner if the "starter" is in the bottom of the section-box colse to the bees' familiar surroundings; afterwards reversing the case, teaching them downward growth in comb-building.

FASTENING FOUNDATION.—For putting in foundation, a piece of common window-glass and a cup of hot water suits me very well; occasionally dipping the glass into the water, then pressing it against the wax before cooling.

REQUEENING AND NON-SWARMING.—Requeening early in the season scores a point in favor of non-swarming, but super-induces the bees to build drone-comb in the section.

WING-CLIPPING.—Clipping the queen's wings down to mere stubs, as far as tried by myself, is not entirely without merit.

Wheelersburg, O.

"The Giant Bee of India."

BY C. D. HOLT.

This bee was brought from Ceylon to the United States in 1891, and is distinguished from our bees by its giant size, and the manner of obtaining honey from flowers that the common bee cannot gather from. The Indian bee (*Apis dorsata*), with its front feet, and large, strong mandibles, tears open any flower that it can't reach the honey with the tongue, and gathers nectar where no other bee could enter. It is one-half size larger than the Cyprians, but gentler and easier to handle than the Italians. While they will not gather any more honey

than either of the above, yet the crosses of the giant and Italians gather more than twice the amount of any race of bees known.

The full-blooded Indian queen is not as prolific as our natives, but she and her workers live longer. The workers live through the season of six or eight months instead of two or two and a half, as with our common bee. The great advantage of this bee is in crossing. By using an Indian drone and an Italian queen, her half-breed workers partake of nearly the size of the Indian bee—their gentle dispositions, their ability to go into any flower—red clover, pea-blossoms and all—and their indisposition to swarm.

The full-bloods swarm but once in a season, under any circumstances, and you can hardly make them rear more than two young queens at a time in one colony, and but few drones. The young queens are generally fertilized in the hive, or on the ground; put a young Italian or black queen in a cage with an Indian drone, and he will fertilize her at once, and will fertilize as many as four queens before he stops.

The above is as nearly correct as I can give, but I am satisfied that this bee is of greater importance to us than any other strain or family of bees. They and their crosses don't tolerate moth or any enemy to prey on their stores.

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We are far in advance of the generation that preceded us, not only in bee-knowledge but in knowledge of all kinds, and

the generation to follow us will be as far in advance of us as we are in advance of our predecessors, for such is the law God hath given to govern the human race. We cannot remain where we are—we must either advance or retrograde.

Dr. Marshall's address before the Southwest Texas Bee-Convention brought fresh to my mind the ideas of my childhood. Dr. Marshall is 14 years my senior, yet I distinctly remember those old superstitions. It is a long time since I have heard any reference to a king-bee, and I should be pleased to meet the "king-bee of Texas." I would also be pleased if I had a picture of Dr. C. C. Miller hung in my house. I think a pleasant face, such as the Doctor has, would cheer a man when the cares of life press heavily upon him.

I am amused when I read the difference of opinion on the hive question. I think the hive to be used depends largely upon location. Where bees can be wintered on the summer stands, I should prefer the Langstroth hive, but in this cold climate I think a deep hive is better for wintering, but there are so many objections to a deep hive that the advantage in wintering will not overcome those objections. A deep hive that is so constructed as to contain the same number of cubic inches as the Langstroth hive places the sections too far from the entrance and makes extra work for the bees to crawl up through, and there cannot be as many sections on such a hive and they must be taken off oftener, and this disturbs the bees; besides, they do not store as much honey.

Last spring I was obliged to take my bees out of the cellar in March; the weather was warm for about a week, and then turned very cold for about three weeks, and when it became warm again I found one of my best colonies dead. As there is no timber here for a wind-break, I have built a kind of shed as a shelter for my bees, open only to the south, and I found the bees in this dead colony all clustered at the top of the brood-combs, and no honey where they were, but there was nearly honey enough in the back part of the hive where the sun did not shine on it to winter a good colony. Now, if I had had that colony in a tall or deep hive, I would not have lost them; and yet, for all purposes I like the Langstroth 10-frame hive the best; but the *best* hive is the one that any bee-keeper likes the best and has the best success with. Thus far (Feb. 2) the winter has not been very severe, and my bees are wintering well.

Keeville, Minn.

The Sunny Southland.

CONDUCTED BY

MRS. JENNIE ATCHLEY, BEEVILLE, TEX.

Transferring and Building Up for the Honey-Flow.

I have purchased quite a lot of bees in box-hives. Our fruit blooms the last of March, and poplar the first week in April, basswood June 10 to July 15, sourwood July 1 to the 15th, then comes the celebrated mountain or black sumac that always supplies our bees with winter stores. If I transfer the bees the last week in March, dividing them up into 2-frame nuclei, giving each nucleus about a quart of bees and a queen, adding frames of comb or foundation, will they build up in time to catch the basswood or linden honey-flow?

Tracy City, Tenn. W. M. SCRUGGS.

Friend Scruggs, I think you can build up your bees from March 20 to June 10, ready for the basswood flow, especially if you will feed right along, should the bees fail to get honey enough to breed up on.

Eight or Ten Frame Hives?

As many beginners are now asking which is best, the 8 or 10 frame hive, I will say that I do not believe it will matter very much which you use of the two, but as the 8-frame hive is fast coming into general use, and may soon be a standard, and as standard goods are cheaper, as a rule, I will say use 8-frame hives, and if you can't get room enough on the ground floor, put on an up-stairs, or two stories if need be, and you will have all the room needed.

It is best to settle down on some hive as you start, and as locality has something to do with large or small hives, I would suggest that you find out, if possible, what kind of a hive, or size, the nearest bee-keeper to you is using and making a success with, and use that size, and you will not go far wrong.

The time has now arrived when we see plainer than ever the necessity of a uniform frame, as the trade and traffic in bees is growing more and more every year, and those who have to sell get more for their bees if they are in the regular standard Hoffman or Langstroth Simplicity frame. Whatever hive you use, I would advise the use of the standard frame.

I will venture to add here what I have often said, that it is not the hive altogether that is to be depended upon for a crop of honey, it is the bee-keeper; and if you use a hive that you can contract and enlarge when you choose, and use the standard frame, you are all right as far as the hive goes. But it won't go far without bees and a *bee-master*.

My advice would be: Get your bees in condition to catch your honey-flow; use a hive that you can catch a big crop in, if it should suddenly run upon you; and then smile while you take it off the hives. That is what I call real enjoyment.

JENNIE ATCHLEY.

A Report for 1894.

MRS. ATCHLEY:—My report for 1894 is 7 colonies in the spring, increased to 11, and extracted 430 pounds of honey, 60 pounds of it being comb honey. I sold about half of the extracted for 10 cents per pound, the rest for 8⅓ cents. Bees are doing well. I don't think I will have to feed any this season, as my bees have plenty of stores yet, though we are having some pretty cold weather now (Jan. 30). We have had 5 inches of snow on the ground for three days.

Grandview, Tex. W. E. WAGGONER.

Time Necessary to Rear a Queen.

MRS. ATCHLEY:—Speaking about the queens, you have said the following: "Three days in the egg, one day larva, 12 days a hatched queen. Now count and see if this is not 16 days." American Bee Journal, Vol. XXXIII, page 652. On page 815, you repeat the same theory, which either I did not understand clearly, or, if I understood it aright, I can with difficulty accord it with the theory that is taught in Europe. Our theory is: Three days in the egg, 5½ larva, and 8½ days chrysalis; that gives our hatched queen the 17th day.

JAAK M. VON EMELEN.

Belgium, Europe.

Friend E., I think you must have misunderstood my meaning. I was giving instructions on queen-rearing, and of course did not carry out the different periods, etc., in the development of the queen-bee. I meant 3 days in the egg, using a larva one day old to rear queens with, or graft with larva only one day old, making 4 days, and 12 days more a hatched queen, making 16 days in all. I did not mean that we could expect a perfect hatched queen in 12 days from the egg, but 16 days. I ought to have been more definite in these statements. Sixteen days is about right. But we have it on record here where we have perfect hatched queens in 15½ days from the egg in warm weather.

Questions AND Answers.

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Wintering Bees Under Snow—Black Bees.

In the American Bee Journal for Jan. 24, you state that if bees are buried under snow more than a week or two it works mischief. We do not find it so here. In fact, we consider it a blessing to have them buried under the snow during the cold part of the winter, which is over two months; but in March it is not safe, unless the snow is removed from the entrance, in case it should get warm enough for a flight. I have wintered them on the summer stands for the last five winters, packed in oat chaff, and buried under two to three feet of snow from two to three months at a time. We are having a severe winter here in northern Wisconsin. It has been from 10° to 30° below, off and on, for the last three weeks—Feb. 1, 48°, Feb. 2, 41°, Feb. 3, 46° below zero at 7 o'clock a.m., and 91 colonies of bees on the summer stands, which seem to winter splendidly. They weighed from 60 to 90 pounds per hive when packed last fall, being in 10-frame dovetailed hives.

Since you are favoring the Italians, I will give you a statement of my "blacks" for three years: In 1892, from 13 colonies, spring count, 2,585 well-filled sections, and some partly-filled sections weighing 14 ounces each, or an average of 198 per colony. In 1893, 33 colonies in the spring, 3,000 pounds net; 1894, 59 colonies, increased to 104, and took 7,000 pounds net; over 6,000 pounds of the 1894 crop graded fancy and No. 1. Average income per colony in 1892, $23; in 1894, $13.50. Last year's crop brought from 12½ to 15 cents on the cars here.

When I pinch the head off a black queen and put an Italian in her place, I will be older than I am to-day.

Cumberland, Wis., Feb. 4. L. M. K.

ANSWER.—I think likely you have the right idea about the snow business. I have no personal experience in the matter, but from the fact that G. M. Doolittle reports loss from snow piled over hives it is evident that it isn't the safe thing at all times. Perhaps it may be that the danger doesn't come till March, when the warmth induces too much breeding, or what is the trouble in March?

The man who can get $13.50 to $23 per colony would do well to think twice before making any material change in his plans. Still, the question may arise whether the man and the location may not have a good deal to do with it. It would be interesting to know what 10 colonies of Italians would have done under precisely the same conditions.

When to Introduce Queens.

I wish to introduce some new queens early in the spring, how soon after removing the bees from the cellar should this be done? V. S.

ANSWER.—I don't believe I would do it before fruit-bloom.

Thin Foundation in the Brood-Frames, Etc.

1. How would surplus foundation, such as Root's thin surplus, do to put in brood-frames, provided it is well wired? I have heretofore used only a 1-inch starter of light brood foundation, but would like to use more, and having more surplus foundation on hand than money, I have wondered whether I could not use it by wiring a single sheet in a frame.

2. Were any honey-bees found natives of America, or were they imported? If so, when, and from what country, and by whom? INQUIRER.

ANSWERS.—1. It will work all right, if as you say, the frames are well wired. Of course, the lighter the foundation the greater the inclination to sag, especially if a heavy swarm be thrown upon the foundation.

2. Hive-bees were not natives of this country, and were called by the Indians the "white man's fly." Being some 200 miles from home, with nothing to refer to, I cannot answer precisely, but I think bees were brought over early in the 17th century.

Could Not, or Would Not, Rear a Queen.

On page 103, is a question from J. T. H. about a colony of bees that "could not, or would not, rear a queen." As I am the person referred to, a further explanation is needed to make the case clear to you. Last spring I had 2 colonies of bees; both seemed strong and in good condition. Drones were flying by April 13 from the one I want the information about, but in a short time I noticed the drones were much smaller, being about the size of the worker-bees. I concluded a laying-worker was in the hive, or else the queen had become a drone-layer, as she was at least 3 years' old, and maybe more. So I opened the hive and took out the queen; she did not seem very active, crawling around very slow, and did not attempt to fly. I put her under a tumbler, but she did not live an hour. I examined her body, which contained plenty of eggs. Then I gave this colony a frame of brood which contained larvæ and eggs, so they could rear a queen, but although they built queen-cells and capped them, they did not hatch, for I examined them in due time, opening the cells, and found only a milky looking substance in them. Then I tried again with another frame of brood; more nice queen-cells were built, but did not produce anything.

Now the "books" say that when a queen is removed the bees become uneasy; running out in front of the hive as if they had lost something; there was not the least commotion about this hive—they did not seem to care whether they had a queen or not. The brood I gave them must have been good, for the colony I took it from cast a fine swarm which built up well for winter.

Well, the queenless colony of course dwindled away, and the moth took charge, I am sorry to admit, but that was because there was sickness in my family, and I did not have time to look after them any more.

Now, Doctor, if your patience is not all exhausted after reading this, please answer in the Bee Journal why they "could not, or would not, rear a queen." J. T. H.

Columbus, Ohio.

ANSWER.—No worker-bees having been reared for some time, there were nothing but old workers in the hive, and they don't make so good work at rearing queens. Moreover, they were more reconciled to their condition than if they had suddenly been made queenless after having had a good queen. Even if everything else had been all right, it is nothing unusual to find one or more cells in a hive that fail to mature all right, although correctly sealed over. I never knew a case, however, in which all the cells failed, but there would be nothing impossible about it.

Hiving Swarms and Uniting.

1. I am using a hive that is incapable of being tiered up, but which, if the division-boards are spread, will hold 14 or 15 frames. Can I, when a swarm issues, shove the old frames to one end of the hive, put in a wire-sieve division-board, and new frames containing starters, and hive the swarm in the hive with the parent colony, providing a separate entrance is made? 2. If so, must the surplus arrangements also be divided? 3. How long after swarming must I wait before I can unite them. 4. Must I take away one of the queens in orner to unite them? 5. In uniting them, can I take the wire-sieve out at once? 6. Can swarms of different colonies be united in this way? 7. Would it be more profitable to hive in a contracted brood-chamber, say five frames? J. R.

ANSWER.—1. Yes, that's done sometimes. 2. No; one super may cover the whole business, but there should be a queen-excluder over the brood-chamber to keep the queen on her own side. 3. They can be united after all the young queens are hatched or destroyed, or they may be united any time later. 4. Not necessarily. 5. Yes. 6. I think so. 7. It might, but much depends upon after management. Don't try your new plan too heavily. You're likely to have a big swarm come out when the first young queen hatches.

Bees Packed for Winter—Ordering Queens.

1. How about hives with bees put in a box 6 inches larger all around, leaving an entrance 1x6 inches, packed with wheat chaff? Do you think I have them too warm? I left the blanket and cover on, and about 10 inches of chaff on the top of the hives, with a shingled roof on each box.

2. How would you advise me to send from eastern Pennsylvania; or is that too great a distance to send queens from? I have Italian bees, and think they are beauties and good honey-gatherers.

3. Who would you say has the best queens? I want to buy some. A. C. K.

Racy, Mich., Feb. 9.

ANSWERS.—1. Some keep their bees through the winter in very much the way you mention. You allow the moisture from the bees to pass into the chaff, and you mustn't have the cover so close that the moisture will be held in. Some think it full as well not to have as much as 6 inches of space for the chaff.

2. For a long distance, perhaps the best way to send queens is by express, but queens are constantly sent to all parts of the United States by mail.

3. I don't know. Quite a number of good breeders advertise from time to time whose queens I wouldn't be afraid to use.

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DR. F. L. PEIRO - - - - - - "DOCTOR'S HINTS."
REV. EMERSON T. ABBOTT - - "NOTES AND COMMENTS."

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Editorial Budget.

Rev. E. T. Abbott has been lecturing on bees at the State University, located at Columbia, Mo. He reports a grand good time, and says he "never talked to a more attentive audience than the one there, made up of students and professors." Mr. Abbott "found them ready to do all they could to help out the industry" of bee-keeping. Those Missouri people seem to be "all right." Glad of it.

Mr. Geo. Neighbour, of the firm of Geo. Neighbour & Sons, large bee-supply dealers of London, England, died week before last. Mr. Neighbour was one of the best known bee-men in Great Britain. Messrs. Chas. Dadant & Son were just filling an order for 1,800 pounds of comb foundation for this English firm, when they received a cable message announcing the death of Mr. Neighbour, and countermanding the order until further notice. No doubt Mr. N.'s sons will continue the business.

Hon. Geo. E. Hilton, of Fremont, Mich., delivered an interesting address Feb. 23, to the bee-keepers of Saginaw county, Mich. About 25 bee-keepers were present, and a very pleasant meeting is reported. Mr. F. E. Gibson, of Racy, Mich., wrote me about the lecture, and said: "We hope to have it repeated soon." Mr. Hilton sets a good example, which should be followed wherever a local meeting can be gotten up. Nearly every county in the country possesses one or more apiarists who can, and would, talk entertainingly and profitably on the subject of bee-keeping. Why not hold an evening meeting occasionally?

Large vs. Small Hives has recently been much discussed in Gleanings, and, in fact, in some of the other bee-papers, including the Bee Journal. On page 166, Mr. Chas. Dadant, in his series on "Extracted Honey," gives one of the best articles ever published on this question of large vs. small hives. Read it carefully, for Mr. Dadant is one of the strongest advocates of large hives, and one of the most experienced.

Mr. Ernest R. Root, in Gleanings for March 1, gives the following concise editorial recapitulation of "what has been learned from the discussion of large vs. small hives:"

Let us briefly recapitulate some things we have learned in the hive discussion up to the present time:

1. There are more bee-keepers using large brood-nests than we were aware of.

2. Many more favor 10-frame hives in preference to the 8-frame than we supposed, although, if we could count the hands of those using the 8-frame hives and those using the 10-frame hive, I think we should probably find three of the former to one of the latter.

3. It seems probable to me, at least, that some are using too small brood-nests, say of 8-frame size, when they might possibly get better results with 10 and 12 frame sizes.

4. In colder climates, especially where there is one main honey-flow in June and July, with very little fall-flow, the 8-frame size seems to be used most. In warmer localities, in many portions in the South, in Cuba, where the seasons are prolonged, and where there are months when the bees can gather honey, instead of weeks, as it is with us up here in the North, a large brood-nest of 10, 12, and 16 frame capacity seems to have the preference.

5. Instead of bee-keepers running from 10 down to 8, as formerly, the tendency now seems to be from the small size to the large.

6. The double 8-frame hive of 16 frames is too large, since 12 frames seem to afford the maximum capacity for most localities.

7. Supply-dealers (pity the poor fellows) will do a lot of growling, because it will be a nuisance to keep so many *sizes* of hives in stock (to say nothing of styles), each size necessitating special covers, special supers, special bottom-bars, and special honey-boards. How nice it would be, dear brother supply-dealers (let us draw nigh and weep) if every bee-keeper could use one size of hive, one kind of frame, one kind of every thing. But, no. There are too many notions that are at variance—too many localities with different resources; too many things in general, to make us all think and believe alike.

Basswood in the South.—A number of questions have been asked about basswood trees the past month or two, and one about how far south they would grow. I have received several replies, which probably may as well be condensed as follows:

M. T. Fouts says: "I don't know how far South, but I know it grows well in north Georgia, western North Carolina, and here in East Tennessee. It blooms about June 25."

S. D. Mathews writes: "There is a large tree on the sidewalk in this town (in North Carolina), just in front of a hotel, and I never have seen it fail to bloom. It is almost certain to attract passersby with the hum of the honey-bee."

Geo. McCullough sends this: "I was born in Chester county, South Carolina, but was just a boy 4 years old when my father and family moved from that State in 1830. I have heard them speak of the basswood, and I think from its habits here (Iowa), growing best near the little streams, that it would probably grow in North Carolina, on the damp grounds along the little streams—at least, if I were located there, I would try it in such grounds. I see in my note book, 'Bees commenced work on June 20, 1894.' I think it would bloom some two or three weeks earlier in the South."

Those who wish to purchase basswood trees to plant, will find them advertised in the Bee Journal. Being such an excellent tree for honey as well as shade, it seems to me that by a little effort bee-keepers everywhere could easily induce their neighbors also to plant it. May be it would pay to buy the trees and set them out for your neighbors, as your bees would work on the bloom later on. Urge basswood in preference to other shade trees whenever your town does any tree-planting.

The Illinois State Fair Premium List for bees and honey, as adopted by the Illinois State Board of Agriculture, recommended by the committee of the Illinois State Bee-Keepers' Association, is on my desk. The judge, in this lot, is to be governed by the code of rules adopted by the Illinois State Bee-Keepers' Association. (See page 80 of their Second Annual Report.) The following is the premium list for the State Fair of 1895:

	1st.	2d.
Largest and best display of comb honey	$20	$10
Best case of white comb honey 12 to 24 pounds	5	3
Best case of comb honey from fall flowers, 12 to 24 pounds	5	3
Largest and best display of extracted honey	20	10
Best display of samples of extracted honey (named)	5	3
Largest and best display of candied honey	15	10
Best honey extracted on the grounds	10	5
Largest and best display of beeswax	15	10
Best one-frame nucleus in observatory hive, Italian bees	5	3
Best one-frame nucleus in observatory hive, Carniolan bees	5	3
Best display of queen-bees in cages	10	5
Largest and best display of comb foundation	10	5
Largest and best display of honey-plants, pressed, mounted and labeled	10	5
Best honey-vinegar—one quart or more	3	2
Sweepstakes in honey	25	15

Mr. Jas. A. Stone, of Bradfordton, Ill., the Secretary of the State Bee-Keepers' Association, kindly sent me the above. There certainly are a number of good premiums for the bee-keepers of Illinois to strive for. The apiarian department of the State Fair ought to be a fine thing, with such inducements offered.

Mr. D. E. Merrill.

The picture shown in the second column of the first page this week is that of the editor of the American Bee-Keeper, published by the W. T. Falconer Mfg. Co. When sending the photograph, Mr. Merrill said:

The picture is, of course, much better looking than the original—artists must make them so to sustain their reputations, you know. The position is not exactly as "reposeful" as might be. Taking all together, however, my friends say they would recognize the picture as intended to represent me.

Mr. Merrill was born Sept. 6, 1859, in Chautauqua county, N. Y. When about 10 years old his parents moved to Titusville, Pa., where he lived until 1874, after which time, until 1882, he lived at Erie, Pa., where he received the greater part of his education. He went to Jamestown, N. Y., in 1882, where he has lived ever since.

In 1888, Mr. M. went into partnership with Mr. W. T. Falconer, who had been engaged in the manufacture of bee-keepers' supplies since about 1873. Besides bee-keepers' supplies they make a considerable quantity of other goods, and employ from 50 to 125 hands, depending upon the time of the year. Mr. Merrill devotes very little time to the bee-business, as that department is looked after by Mr. Falconer, Mr. M.'s time being fully occupied with the other lines of their business.

He has always taken a great deal of interest in out-door recreation, and to the fact that he spends all his spare time out-doors, he owes the pleasure of good health. He is very fond of yachting, and owns a sloop on Chautauqua lake. He is also a bicyclist, having ridden several "centuries" (100 miles a day).

Mr. Merrill is married, and has a family of three strong and healthy boys, the oldest being 6 years, the youngest only a little over one year old. Mr. M. is a Yankee, bred from "way back," his ancestors having come from France to England in 1583, and from England to America in 1635—a little too late to be in the Mayflower, however.

I am sure the foregoing short sketch will be read with interest, as the man who has the most to do with the American Bee-Keeper has heretofore been but little known to the bee-keeping world, particularly in name.

Next week I expect to "hold up" Mr. R. B. Leahy, of the Progressive Bee-Keeper, in these columns. THE EDITOR.

Among the Bee-Papers

Conducted by "GLEANER."

HOW MANY EGGS A DAY LAID BY A QUEEN-BEE?

3,000 is often called the maximum. Doolittle says in Gleanings that if you give a prolific queen 8 frames and then increase as she needs them to 30 frames, she'll lay 5,000 to 6,000 eggs daily through most of the laying season and die at 18 to 24 months old. He don't believe in such heavy laying, and says: "From all past experience I think that 2,400 eggs per day day would be a good maximum average for any queen."

LARGE VS. SMALL HIVES.

This question doesn't seem to be settled very rapidly. In Review, B. Taylor reports having tried along side of 10-frame hives some 40 larger ones, having 12, 16 and 19 frames, only to store them away as useless rubbish. J. E. Crane reports that in his home apiary he has much better success with hives having 7 or 8 frames, while 6 miles away 10 or 11 frames are decidedly better, the honey-flow being quite different in the two places.

RIPENING EXTRACTED HONEY.

Opinions differ as to whether honey can be ripened artificially as well as in the hive. For those who believe in the artificial ripening, a plan given by Mr. I. Hopkins in the Australian Bee-Bulletin seems well worthy a trial. He says:

"My arrangements were—a very warm extracting-house; large, shallow wooden tanks, 6 feet by 4 feet and 18 inches deep, lined with tin; and good strainers. As the honey ran from the extractor, it fell into the strainer, or rather strainers, three arranged one above the other, the top one rather coarse, the middle one finer, and the lower one very fine. This lower one split up the honey into very fine, silk-like threads as it dropped into the tank, and I believe a good deal of the surplus water evaporated during the extraction. The honey was allowed to remain in the tank exposed to the atmosphere for a day or two until I considered it sufficiently ripe to tin. In the meantime a scum would rise to the top, which of course was skimmed off."

EXTRA-LARGE COLONIES.

If we had a big pile of bees, as we sometimes do in the swarming season, when several swarms go together, how many would it be profitable to put together in a hive in dividing them up? I have sometimes hived these big abnormal colonies all in one hive, and given them room, and watched them with expectation of wonderful results. To be sure, they work very rapidly at first, and do more than an ordinary colony; but they never come up to my expectation. They soon become normal in size, and never make a record that will compare with the same amount of bees in two colonies.—H. R. Boardman, in Gleanings.

SWEET CLOVER FOR HOG-PASTURE.

C. H. Dibbern says in Gleanings: "I have often wondered why farmers did not make more use of sweet clover as a forage-plant and for fertilizing. I know of several hog-lots, of from 10 to 20 acres, that have produced nothing but dog-fennel for the past 10 or 15 years. Why not plow up, say, half, plant to sweet clover, and keep the hogs off for the first year? The next spring, plow and seed the other half and turn the hogs in to live on the tender clover shoots. If not overstocked, enough clover would bloom and seed the ground to keep it from running out. Incidentally, the neighboring bee-keepers would be benefitted."

BARRELS FOR EXTRACTED HONEY.

E. France says in Gleanings that he'd rather handle a large crop of honey in 370-pound barrels than in the popular tin cans. And where do you think he keeps his barrels till needed, so they won't leak? "In the cellar?" Not a bit of it. Kept in a cellar they're sure to leak. He gets his barrels ready in winter, keeps them in a dry, warm place, then drives the hoops before using, and has no leaking.

Notes AND Comments.

CONDUCTED BY

Rev. Emerson T. Abbott, St. Joseph, Mo.

The Sweets That Waste.—"It is too bad to allow so much of the sweet provided by Nature to go to waste for lack of a little care and attention on the part of many farmers who have facilities for carrying on this important adjunct to agriculture."—Canadian Bee Journal.

This is well said; however, I would not call bee-keeping an "adjunct," but a *branch* of agriculture. It is not something to be joined onto agriculture, but as much a legitimate part of it as raising wheat, poultry, or calves. I am decidedly of the opinion that the sooner the agriculturists recognize this fact and profit by it, the better it will be for the country. Then, again, if apiculturists will press the claims of the industry on the ground that it has the same reason for recognition as any other branch of agriculture, I am sure it will receive this recognition much more quickly at the hands of the experiment stations and agricultural colleges of the country than it will if its claims are pressed as an independent industry. I know that some of our bee-keepers hold that farmers should not keep bees; that bee-keeping is not an industry suited to be carried on in connection with mixed farming, but I am not among that number. I am confident that apiculture can be more successfully conducted as a branch or part of mixed agriculture than in any other way.

It may be claimed that this industry requires special skill and aptitude, and that this cannot be found on the farm. Further, that the farmer has not time to give the bees the attention their successful management demands. Now all of this may be true, and I will admit it for sake of argument, and yet I insist that the proper place for this industry is on the farm. Almost every farmer's household is made up of a number of people, and there is generally some one among that number who would be successful with bees, if he or she would make the proper effort to learn how to handle them. Bees and poultry belong on the farm, but they should not be left to shift for themselves, but should be placed under the immediate charge of some member of the family.

Frequently it would save the father and mother many days of anxiety and sleepless nights, if the bees were placed

in the hands of a son or daughter with the understanding that he or she could have all the clear profit made out of them over and above the honey needed for family use, and the necessary expense of hives, etc. Too many farmers bring up their children without permitting them to have anything they can call their own, and then when the boys persist in leaving home, or the beautiful young daughter goes to the bad, they wonder why it is. They try to console themselves with the remark, "I always tried to bring my children up to do right," little thinking that what they have called "doing right" has narrowed the lives of their children down to a very small compass.

Give the boy the bees, give the girl the poultry. Let them have something they can call their own—something for which they will feel the entire responsibility—and then "doing right" will not seem so much a matter of arbitrary restraint. The right to think and act for themselves will develop the latent manhood and womanhood which will seek all that pertains to it because it will be to them the dearest spot on earth—a home of happiness and contentment.

Yes; it is too bad to let this delicious sweet go to waste when it means so much to the farmer and his family; nay, more; when the very labor necessary to the saving of it may be the means of so sweetening life to some boy or girl that no temptation will have any influence to lead him or her astray. Employment with contentment—and contentment is more apt to exist where there is a feeling of personal ownership—is the best possible cure for any mania to leave the farm and try the hot-house and over-reaching methods of city life, that may come to a boy or girl.

Surely there is someone on every farm who can find sufficient time to properly care for bees enough to furnish the family with honey, and a few extra pounds for "pin money," or to buy a good book, or something that will be a source of pleasure to the family. If so, it *is* too bad to let it go to waste.

Abuse of the Smoker.—"It is a very difficult thing to estimate what amount of mortality is caused among bees by the injudicious use of the smoker; but could it be accurately arrived at, I dare say a good many bee-keepers would be surprised to find what havoc they had caused among the inhabitants of their apiaries by the injudicious and indiscriminate use of even a cold-blast smoker."—Writer in Gleanings.

Here is food for a good deal of reflection. I confess the matter was never brought so forcibly before my mind until I read the article from which the above is a quotation. Do we really kill our bees by smoking them too much? We all know how painful smoke is to a member of the human family. Is it equally so to insects? It is true they do not breathe through lungs, as we do, neither do they have the same kind of a nervous organism, but they no doubt have feeling, and possibly the mucous membrane—lining the trachea through which they breathe—is equally as sensitive as that of our throat, bronchial tubes and lungs. But, even if it is not, there can be no question that the smoke is very disagreeable to them, as any one can readily see from the effort they make to get away from it; and if disagreeable, analogy would lead us to conclude that it is more or less injurious.

The writer of the paragraph quoted claims that bees are killed by the injudicious use of the smoker, and his arguments to prove the same seem to be well taken. Let this be as it may, there is no question that many bee-keepers, perhaps the majority of them, use the smoker more than is necessary. A few puffs of smoke, if properly directed, is all that is generally needed, as there is no use in smoking bees when they show no disposition to sting. Many people work the smoker like a blacksmith does his bellows, and as though they thought their lives depended upon it. This is not only a foolish but a useless practice, for the truth is the smoker will not throw out as strong a volume of smoke when worked in this vigorous way as it will with a more gentle movement. I have often heard bee-keepers say, "Well, if a little is good, a good deal will be better," and, acting in accordance with this, they would pour volumes of irritating smoke into the hive without any thought of the feelings of the bees. As I said above, this is not only a useless practice, but a manifestation of needless cruelty, little becoming one who has any regard for the comfort of "dumb animals," as we are won't to call them. Some of them are not as "dumb" as the people who handle them seem to think.

Wintering Well.—In spite of the extremely cold weather, reports so far indicate that bees are wintering well. This is indeed surprising. When we remember cold winters are followed by early springs, usually, the prospect so far is encouraging.—Gleanings.

Canadian Beedom.

Conducted by "BEE-MASTER."

Mr. McEvoy's Foul Brood Report.

BY REV. W. F. CLARKE.

BEE-MASTER, *Sir:*—I did not expect to trouble you so soon with another "Echo," but the appearance of Mr. McEvoy's report as Foul Brood Inspector, on page 138, compels me to do so. I was not present when that report was read to the Ontario Association, and knew nothing of its contents until I saw it in the American Bee Journal of Feb. 28. The report was presented at an evening session. The weather was stormy. I was stopping with a friend nearly a mile away from the place of meeting, and with sciatica haunting me I did not dare to venture out-doors. Not until I got my American Bee Journal on Friday, did I know that I was virtually put in the pillory, and arraigned as a public criminal in the Foul Brood Inspector's report.

It will be said, "Why, you are not named." I reply, I might as well have been. All Canadian beedom knows that I live in the County of Wellington where Mr. McEvoy reports having burned three foul-broody colonies. Besides this, Mr. McEvoy, notwithstanding he takes great credit to himself for suppressing names, has made no secret of his having burnt three of my colonies. I question if there were a dozen out of the hundred bee-men present at the Stratford meeting who were not furtively apprized of the fact. How does this look alongside the statement made in the report that a resolution had been passed by the Board of Directors prohibiting any person from getting the names except the Minister of Agriculture. Moreover, Mr. McEvoy not only as good as names me, but puts a bad mark against me. I am evidently hinted at in the statement:—"Some that had only a few colonies, would be so careless and indifferent about the curing, and would not do as I told them, and then I resorted to stamping the disease out by fire for the public good." Again, he says, "I burned three foul-broody colonies in Wellington county. I was well pleased with the work done by the owners of all other foul-broody colonies."

I have nothing to conceal in regard to my experience with foul-brood, and nothing to be ashamed of in regard to it. I am rather glad of the opportunity to state, "What I know about foul brood?" Whether I am justly open to the charge of carelessness, indifference, or disobedience to Mr. McEvoy's authority, I will leave the bee-keeping public to judge when I get through with my story.

In commencing my present apiary in the spring of 1891, I knew I was running a great risk from the proximity of foul brood. Within a half-mile in one direction there was an apiary of 80 colonies that I knew had the disease badly, for I could smell it from the sidewalk. Half a mile in another direction an apiary of 100 colonies had gone up with foul brood. A mile off in another direction were the last vestiges of another apiary of 40 colonies that had "pegged out" with the disease. But I wanted to resume bee-keeping if only for the diversion of it, after being unable to enjoy the pastime from various causes for two or three years. Wishing to take every precaution, I obtained an official visit from Mr. McEvoy. He ordered 11 colonies of the 80-colony apiary to be burned, and put the rest under a course of curative treatment. He found a solitary colony over the fence from my apiary grounds rotten with foul brood, and got the owner's consent to burn it at once. He examined my colonies—16 in number—and pronounced them all right. They consisted of 10 hybrid colonies bought of Mr. R. F. Holtermann, 3 pure Italians from Mr. Henderson, of Tennessee, and 3 Carniolans from Mr. Turner, of Wisconsin.

During the following summer I detected the first signs of foul brood, und at once made use of the Cheshire prescription. I also notified Mr. McEvoy that the disease had appeared in my apiary, and he paid me a visit soon afterward. He found mild traces of the disease, but there was no bad case. I was trying the phenol treatment and he wished me to become convinced that it was no good, so let me go on with it. He also wanted to try an experiment of his own to which I had no objection. In spring he called to look at the results of our experiments, found them failures, and promised so soon as the honey season began, to come and put my apiary, as he said, "in grand order." He wrote on May 22, 1893, informing me that he had ordered the necessary bar-heads with half-inch strips, also Langstroth frames with full-sized foundation, and directing me to hurry up and have all things in readiness.

Toward the end of June he notified me that he could not come. I was not surprised at this, because I knew he was driven from pillar to post with calls here, there and everywhere. So I went to work myself and made, as I thought, thorough work of it, reducing my colonies to 10, boiling all the old honey, melting down all the old combs, and feeding all the colonies that were short of stores. I made considerable sacrifice to get rid of the pest, and my bees went into winter quarters, as I thought, clear of it.

The next spring (1894), I asked the President of the Association to authorize Mr. McEvoy to call and look at my apiary, and see if he could give me a clean bill of health. I neither saw nor heard anything of him until July 25, 1894, on which day I received the following note from Dr. Mills, President of the Ontario Agricultural College:

"My Dear Sir:—I regret very much to have to inform you that Mr. Wm. McEvoy, Foul Brood Inspector, has this morning inspected the three hives of bees which you placed on the College campus to assist in illustrating your lectures on bee-keeping, and has formally notified me that they are diseased with foul brood. I have therefore to request you to have them removed from the grounds at once."

It was late in the afternoon before I got this official intimation. Accompanying it was a private note informing me that it was only one of the hives that was considered tainted, and that Mr. McEvoy wanted to burn it on the spot, but the President forbade his doing so, and told him he would have them removed to my own apiary where he might deal with them. On receiving these communications, I at once hastened to the apiary to get my bee-veil, smoker, wire-cloth, etc., and make preparations to remove the three hives of bees. On reaching the apiary, what was my surprise to see a smouldering heap of ruins, and near by several clusters of bees clinging to sticks and stalks, contemplating the burning ruins of their homes. After removing my three hives from the College grounds, I got an expert to examine the colony Mr. McEvoy wanted to burn, and he could not find a speck of foul brood in it. A very curious thing happened shortly afterward to this colony. One morning, between eight o'clock and noon, that particular hive was removed from its stand to a secluded spot back of my house-apiary, pulled to pieces, three brood-frames carried away, and the remaining frames, more or less full of honey, piled iglepigledy on each other, and the bees clustering as best they could between and upon them. The queen was all right, so I fixed up the hive again, and took special pains to prepare it for winter. If it survives until spring, we shall see what we shall see. This was a very mysterious circumstance. I wonder if Mr. McEvoy can explain it.

Now I have stated these facts in as fair and circumstantial a manner as I can, because I wish to call the attention of bee-keepers to the practical working of our Foul Brood Law. Especially do I wish to call the attention of the legal lights of bee-keeping—such men as Hon. R. L. Taylor, Messrs. J. E. Pond. G. W. Demaree, and others, to this piece of legislation. I do not wish to say anything hard of Mr. McEvoy, or to be unfair to him in any way, though I think he pursued a very high-handed course with me, and treated me very unkindly, considering the friendly terms we had always been on previously. Why did he not call on me? I had asked for his visit of inspection, and was prepared to welcome him and carry out his official orders. I have no doubt he thought he was carrying out his functions according to law, but the law reserves some rights to criminals even, and does not put arbitrary power into the hands of such high and mighty officials as inspectors.

I have taken legal advice about this matter, not that I intend to litigate about it, for I do not. But I am told by my lawyer that the Act does not empower the Inspector to go on to a bee-keeper's premises without the knowledge and consent of the owner, and that it does not empower him to burn hives of bees unless they are in a hopelessly foul-broody condition. If they are curable he is bound to give them a chance to be cured. Furthermore, the law does not put into the Inspector's hands any power of punishment. He cannot visit any official wrath on an offender. If a bee-keeper can be shown to be culpably and criminally negligent, the Inspector is to bring him before a magistrate and have him fined in due course of law. So that Mr. McEvoy is liable for trespass, for destroying colonies that might have been cured, and for taking the law into his own hands by usurping the place of the magistrate whose alone it is to be "a terror to evil-doers and a praise to them that do well."

But I wish particularly to ask the opinion of bee-keepers, and especially the legal gentlemen among them, on the principle underlying this kind of legislation. Is it a sound and good one? I opposed our Foul Brood Act when it was first mooted on various grounds. I have never suggested its adoption by United States bee-keepers. I now submit my own example of its practical working, that they may judge for themselves.

If Mr. McEvoy's interpretation of the Act is correct, and he has the right to go onto my premises and burn up my property at his discretion, without my having any appeal to magistrate or witness, judge or jury, I propose to submit quietly, and if I cannot get the law altered in a constitutional way, I shall seriously consider whether I will quit keeping bees, or emigrate to another country. I hope some of the great lights of bee-keeping will drop some of the threadbare subjects of which readers of the bee-papers are getting so tired, and discuss this now live topic. I hope, too, that the North American Bee-Keepers' Association will give this subject a prominent place in their discussions at the next meeting. If I am alive and well, I promise to be on hand and to have something to say that will not be "dull as a sermon."

Guelph, Ont., March 4.

Honey & Beeswax Market Quotations.

CHICAGO, Ill., Mar. 4.—The demand for both comb and extracted honey the last two weeks equaled any like period during the present season, and our market is comparatively bare. We attribute this to the continued cold weather. We advise any one holding honey to ship now while there is good demand. There is a great deal of inquiry for California extracted — more than usual. We quote: White comb, 14@15c.; extracted, 5@7c.
Beeswax, 26@28c. J. A. L.

CHICAGO, Ill., Mar. 7.—During the past two weeks a good movement has been felt in the market. Sales have been in small lots, but quite frequent. We quote: White comb of the highest grade, 14c.; off in color, 13@13½c.; yellow, 10@11c; dark, 7@9c. Extracted, 5½@7c.—the higher price for white in 60-lb. cans.
Beeswax, 28@30c. R. A. B. & Co.

CINCINNATI, O., Feb. 20.—Demand is quiet for all kinds of honey. Best white comb honey sells at 14@16c. in the jobbing way. Extracted, 4@8c.
Beeswax is in good demand at 23@28c. for good to choice yellow. C. F. M. & S.

PHILADELPHIA, Pa., Feb. 15.—Comb honey is very plenty and slow of sale at 12@13c. Extracted in fair demand at 5@6½c.
Beeswax scarce at 30@31c. W. A. S.

NEW YORK, N. Y., Feb. 20.—We are gradually working down our stock of comb honey, and the indications are that we will succeed in disposing of all of the white honey and possibly all of the dark during the spring, at following quotations: Fancy white, 1-lbs., 12c.; fair, 10c.; buckwheat, 8@9c. The market is well supplied with extracted honey. Demand is fair for choice grades, while common stock is neglected. We quote: White clover and basswood, 5½@6c.; buckwheat, 5@5½c; Southern, 45@55c. per gallon, according to quality. Beeswax firm and in good demand at 30@31c. H. B. & S.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.
J. A. Lamon, 43 South Water St.
R. A. Burnett & Co., 163 South Water Street.

New York, N. Y.
F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken, 28 & 30 West Broadway
Chas. Israel & Bros., 110 Hudson St.
I. J. Stringham, 105 Park Place.

Kansas City, Mo.
Clemoms-Mason Com. Co., 423 Walnut St.

Buffalo, N. Y.
Batterson & Co., 167 & 169 Scott St.

Hamilton, Ills.
Chas. Dadant & Son.

Philadelphia, Pa.
Wm. A. Selser, 10 Vine St.

Cincinnati, Ohio.
C. F. Muth & Son, cor. Freeman & Central avs.

Question - Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

How Old May Brood-Combs be Before Changing Them?

Query 962.—How old do you allow your brood-combs to get before changing to new?—Minn.

Mrs. L. Harrison—I never change them.

Chas. Dadant & Son—Twenty years or more.

Rev. M. Mahin—O say from 25 to 40 years or so.

R. L. Taylor—I never have rejected a comb on account of its age.

E. France—I never change them on account of the age of combs.

Wm. M. Barnum—About 10 years; sometimes more, sometimes less.

Dr. J. P. H. Brown—As long as they remain perfectly sound and clean.

H. D. Cutting—I have had combs in use 15 years, and did not change.

Dr. C. C. Miller—I don't know. I haven't any more than 25 or 30 years old.

B. Taylor—I have used combs 15 years old, and they seemed to be all right.

Prof. A. J. Cook—I am not old enough to answer. I have had good comb 20 years old.

Rev. Emerson T. Abbott—I never kept any long enough to know. Ask some one who has.

Jas. A. Stone—I have never paid any regard to age so long as they were in good condition.

Eugene Secor—I have never found occasion to change, so long as the old combs were perfect.

C. H. Dibbern—I never change them at all, unless in handling them I find comb that is objectionable.

G. M. Doolittle—I have kept bees for 25 years, and have never yet discarded a comb on account of its age.

J. A. Green—I have never thought it necessary to change any, though I have some that must be 20 years old.

W. G. Larrabee—We have no combs that have been in use more than 10 years, and have seen no need of changing yet.

P. H. Elwood—We have some in use ever since we commenced to keep bees, or over 20 years. The most of them are changed within 10 years.

Mrs. J. N. Heater—I have combs which have been used for the past 18 or 20 years just as good as ever. I have never recombed my hives.

J. E. Pond—I have used brood-combs 12 or 15 years, and then found them all right. I should not change, so long as they were in good shape, and easily transferrable.

G. W. Demaree—I have some combs perhaps 20 years old, and have never changed a comb on account of its *age alone.* I make it a practice to work out the indifferent combs gradually, supplying their places with new ones.

Mrs. Jennie Atchley—I never keep an account of such things, but I use combs 10 years or more old sometimes. I would not change as long as they were good, and the cells not too small. Somehow bees seem to pull through the winter on old combs.

Doctor's Hints

By DR. PEIRO, Chicago, Ill.

Noises in the Ears.

If you have noises in your ears—hissing, ringing, roaring or buzzing—you may be pretty certain of catarrhal infiltration of the inner ear, and should seek medical advice, at once.

Do You Know About Soap?

Tell you when *soap* was first made? Well, Harry, if several of you boys will write me to tell about soap—to show that more than yourself are interested in the subject—I will gladly tell you; and it is something very few people know about.

Amber for Ornament and Asthma.

Amber is a resinous substance found in the ground near the Mediterranean Sea. It is made into ornaments, beads, etc., and it is worn, and also taken as a medicine, with a view to prevent and cure asthma.

Three-Cornered Wounds.

Wounds made with three-cornered instruments are said to be more dangerous because it makes such an opening that prevents the free flow of blood, hence the blood is more apt to flow into internal parts.

Marks on the Face.

Yes, those powder-marks and birth-marks on the face can be removed, but it is quite a slow process. Some persons are greatly disfigured by them.

Musk as a Perfume and Medicine.

Musk is a substance removed from the musk-ox. It is largely used as a perfume, also as a remedy for nervousness. It is quite expensive, and difficult to purchase in a pure state.

General Items.

Will Use a Deeper Frame.

I have read somewhat of the discussion with regard to the merits of the 8 and 10 frame hives; also with reference to deep or shallow frames. My own experience leads me to conclude that 8 frames are enough for most bee-keepers, but make the frames *deeper*. I am making my hives 11¾ deep, as this is about the width of the 12-inch board after both edges are planed, and I shall have my frames made to suit this depth, leaving ⅜-inch bee-space at the bottom. This will give me about the same amount of room as there is in the 10-frame hive with the standard frame. If I do not need all this space, I can contract the the brood-chamber. If I *do* need it, I have it; and, at the same time use the same bottom, cover, and super that I now use.

Newton, N. J. C. H. S.

The "Color Craze" Condemned.

I believe it was I who first, at the St. Joseph convention, "arcse to object" to the present "color craze" amongst queen-breeders and apiarists. I am pleased, therefore, to note that out of the 26 expert apiarists answering the question-box conundrums (see page 76), *only one* out of the 20 who have tried the yellow queens think them superior to the 3-banded bees, while the other 19 either pronounce no better or not so good. What Mr. Abbott says, in his answer, about "selling" what people want, and spend no time trying to convince, etc., is well enough as far as it goes, but if queen-breeders had not first extolled these yellow bees, and claimed them better than 3-banders, this color craze had never been inaugurated, and we, as bee-keepers, would have been thousands of dollars better off.

I did not myself mean to condemn the yellow bees simply because they are yellow—that would be foolish. What I object to, and still object to, is breeding for color to the exclusion of useful qualities. Whenever breeders give us queens that are prolific, and whose progeny are industrious, hardy, good comb-builders, and cap their comb white, are gentle and honest, *i. e.*, not inveterate robbers—I say when they have secured all these *practical* points, then, and then only, should they turn their attention to breeding for color. And whenever they find that they must sacrifice any one of, or any part of any one of the above points in order to secure color, they should *halt right there!* Beauty is only "skin deep," and what we want is bees for *business purposes*—not simply insects which are pretty to look at. F. H. RICHARDSON.

La Clede, Mo.

A Yahnke (Not Yankee) Bee-Boy.

I see in the American Bee Journal that two boys write about bees. I am only a boy, too, and like bees very much. I take care of my father's bees. Last spring we had 21 colonies, and increased them to 41. Our main honey crops are from white clover, basswood, and in the fall, along the bottoms of the Mississippi river, are horsemint, boneset, Spanish-needle, and many other flowers that I don't know the names of.

The honey the bees gathered from the Spanish-needle all candied some before we took it off the hives, so we could not extract it nor sell it in combs, so we had to cut it out of the sections, put it in tin pails, and set them in boiling water until it was all melted. In this way the honey did not lose its flavor.

Our bees had a good flight Dec. 20; the 22nd it turned cold, and the 26th we put the bees into the cellar. It is pretty cold here now, with 20 to 30 degrees below zero, but our bees are resting quite comfortably in the bee-cellar, which is under a barn, but is arranged so that we can walk on level ground into it. This makes it very handy to carry the bees in and out. We have a carrier made out of two poles, so we can set on two hives at once, and it is all two men can carry without jarring the bees.

I like the American Bee Journal very much. EDWARD YAHNKE.

Winona, Minn., Feb. 2.

When to Move South.

I must say the article by A. P. Carlson, on page 92, is very misleading. He says he speaks from experience, for he left Minnesota on June 2, and arrived at Helena, Ark., on June 2, etc. I fail to see anything in Mr. Carlson's letter to show that he has ever been in Texas.

January or February is probably the best time to change from a Northern to Southern climate, but it is an injustice to Texas to make the assertion that it would result in sickness or death to move from the North to Texas in June or July. That this is entirely false is proved every year by the hundreds that come to this State from the North.

I can readily excuse Mr. C. from any intentional wrong, for it appears that he judges the entire South by that place over there on the bank of the Mississippi river, surrounded by the largest swamps known in the United States. It is natural that Mr. C. would not feel kindly toward a place where after two months only 80 out of 1,000 had not been sick. That is a place that I would not like to risk my health in any time of the year.

I was raised in Mississippi, and speak from experience. All that part of Texas lying west of the Brazos is entirely different from any I have seen on the east side. It is high, dry, and healthy. South of the central part of the State there is a Gulf breeze all summer, and it is much cooler here in summer than in the North. The nights are cool and pleasant—hot, sultry nights are unknown here.

So I say with Mrs. Atchley, come when you get ready, it will not make any great difference—certainly no risk of any fatal sickness, and if ordinary precaution is taken, there need be no sickness at all.

I attended the bee-meeting at Beeville, Dec. 27 and 28. I made the trip from here on my bicycle. I saw a great deal of fine country down there, but it is too dry for much farming. W. C. GATHRIGHT.

Cameron, Tex., Jan. 28.

Pointed Hints for All.

I had the pleasure of meeting with the Venango county bee-keepers at their 2nd annual convention on Jan. 28, at Franklin, Pa. To say I was agreeably disappointed is putting the statement mildly. I must say that so far as I can see, I formed the acquaintance of a lot of "gentlemen"—men who take an interest in their business—some veterans, some young men, but all apparently intent on making things interesting, as well as profitable. The time alloted for discussion was like life—entirely "too short"—not giving time enough to discuss the various subjects brought up for consideration. If it is to our interest to meet annually in convention to discuss the best methods of bee-keeping, let us take time enough. Meet promptly at the hour appointed, and proceed to business. This is one point in bee-keeping. The successful apiarist is not the man who puts off his busness until the last minute. "Take time by the forelock;" drive your business, don't let it drive you. Don't be a slave to negligence and slothfulness, and then you will not have to entertain your friends with that calamitous howl of "bad luck!" "Time and tide wait for no man," and the

bees don't either, unless it suits their own convenience. Give us a good honey season. That will stimulate to action; activity leads to thought. Honey, action and thought fill our pockets. And then we will not cry out "bad luck!"

T. C. KELLY.

Slippery Rock, Pa.

Properly Label the Adulteration.

I don't wish to enter into any controversy with Rev. E. T. Abbott, but I want to say right now that I do not see how he could conscientiously write the article on page 106, headed, "No Use to Hunt the Adulteration," unless he, a friend, or some one else whom he wants to defend, is guilty. I do not want any adulterator trampling on my toes. I would recommend that the law read something like this: "All adulterated honey shall be labeled as such;" then those who sell adulterated honey cannot sell under the reputation that we, the honey-producers, have established. D. S. JENKINS.

Las Animas, Colo.

The Winter in Florida.

We have had an extraordinary winter here in Florida, with great loss in fruit, and fruit-trees and garden-truck; and yet bees are, and have been, carrying in pollen about every day since Dec. 1. The hives are full of brood, and drones on the wing all winter. I have been selling honey all winter, gathered and stored away in the summer time, while I was in Iowa attending to the small honey crop gathered there. It is an easy thing to send good brood-combs down in November, and then take with you a queen and a pound of bees, turn the queen and bees on the empty combs, and the thing is done. Drive out your late weak colonies with insufficient honey for wintering, and bring with you. They will build up and store up a surplus for your use the following winter.

JESSE OREN, M. D.

Daytona, Fla., Feb. 19.

Bee-Keeping in Maine.

The past season here was an extra one as regards honey, clover doing fairly well, basswood excellent, and in the fall golden-rod (which I never knew to yield so much) continued into October; all the brood-frames were packed solid full to the exclusion of brood, which is uncommon here. My bees went into winter quarters with fewer young bees than ever before, but with strong colonies, as I united most of them. I am wintering 15 colonies. I extracted most of the honey, and fed sugar syrup. The yield per colony way about 80 pounds—⅘ comb, and ⅕ extracted. I use chaff hives, and winter my bees on the summer stands. I increase by dividing, and clip all queens as soon as laying. My bees are mostly hybrids, with a few blacks. But few keep bees here, many thinking it doesn't pay any more.

FRANK CHAMPEON.

Exeter, Maine, Feb. 11.

A Plea for Father Langstroth.

I learn, on good authority, that many who have been in the habit of contributing to the Langstroth Fund at the beginning of each year, have not done so yet; and I have reason to think that Father Langstroth feels the omission. What is the matter, friends? Are times so hard that you cannot keep your pledges? or have you forgotten that Father Langstroth is still with us—old, poor, feeble, and in need of friendly aid? I know that the past season has been hard on many; but can we not lop off a little expense here or there, to spare a few dollars? Get out your "A B C of Bee-Culture;" look upon the kind, venerable face of your benefactor, and then think if you have the heart to omit giving your usual contribution, on which he no doubt depends for part of the necessaries and comforts in his old age.

Father Langstroth is now 84 years old. It is not likely that he can remain with us a great while longer. When he is dead and gone, the bee-keepers will perhaps rouse up and put a fine monument on his grave. But what good will that do him? Now is the time when he needs our help. When he is gone, his memory will live in the heart of every true American bee-keeper, with or without any monument to remind us about what he has been to us, and what he has done for us. I am sure that the satisfaction of having done a kind act, where so fully deserved, will amply repay any one for what he may give.

Send your contributions direct to Rev. L. L. Langstroth, 120 Ford Street, Dayton, Ohio, or to the editor of the American Bee Journal, who will forward the money to him.

WM. MUTH-RASMUSSEN.

Independence, Calif.

[I hope the foregoing will be heeded, for Editor Root says he "happens to know that the money would not come amiss."

By the way, I notice that Mr. Muth-Rasmussen sent the same "plea" to Gleanings, in which it was printed March 1.—EDITOR.]

Bees Seem All Right.

My bees (25 colonies) are in the cellar, and seem to be all right at present. I shall set them out to fly the first warm spell we get, and will then let them remain out. That is now the practice of the Fox river bee-men in this (Kane) county.

M. M. BALDRIDGE.

St. Charles, Ill., Feb. 21.

Report for 1894, Etc.

I will now give my report for 1894. We had the worst season for 10 years. I commenced in the spring with 125 colonies, and had the most of them in good condition on March 10, when along came a blizzard and killed all of the flowers—redbud and plums, peaches, and all went together. Then came the hard times. Brood was killed, and when it turned warm the bees began to carry out their brood. Then starvation came on—no flowers for three weeks. Our main honey-flow came; the bees were starving, and our colonies were so weak they could not do much in the way of honey-gathering.

I run an out-yard four miles east of my home, where the bees gathered about 40 pounds per colony, in the spring, from holly and basswood, and 45 pounds per colony in the fall—that makes 85 pounds per colony, spring count, in my out-yard.

I reared queens at the home yard, and had several colonies that gathered 50 pounds each.

As I have been testing seven different kinds of hives, I will say that the best all-purpose hive is a hive 12x14 inches, inside measure, and 12 inches deep. Bees winter better, spring better, and gather more to the colony.

I look from Saturday till Saturday for the American Bee Journal. I like it so well that I wish it would come twice a week. It is the best journal in existence.

Ozan, Ark., Jan. 31. J. W. TAYLOR.

A "Deep" Plan for Wintering Bees.

I am an interested reader of the American Bee Journal. Just now the subject claiming the attention of the apiarist is wintering. After reading about the advantages of deep frames and the necessity of using the standard Langstroth frame, it occurred to me, why cannot the advantages of both be combined in this way?—

Take a two-story hive and, if one of eight frames, put four frames within the center of the brood-chamber, and the same number in the upper story directly over those below, making a depth double that of the standard Langstroth frame. On each side put division-boards the depth of both frames, filling in between the walls of both stories and division-boards with chaff cushions. Now put on top of all a super or half-story, and within place the top cushion, using a Hill's device if thought advisable. When restoring the hives to their former condition, previous to the swarming season, I would restore the upper frames to the brood-chamber, being sure to put those having brood within the center.

I became so impressed with this idea that I asked my husband for a colony with which to experiment. He smilingly asked, "If the idea is such an excellent one, would not some of the distinguished apiarists have adopted it long since?" He advised me to ask the Bee Journal about it. Now, will Dr. Miller, or J. A. Golden, who wrote about deep frames recently in the Bee Journal, tell me through its columns if the plan could be put in practice successfully, and oblige a beginner who is eager for information about apiculture?

MARY MARTIN DURBIN.

Groves, Ind.

Convention Notices.

MINNESOTA.—The regular semi-annual meeting of the Southern Minnesota Bee-Keepers' Association will be held on the first Monday in May, 1895, at LaCrescent, Minn. All bee-keepers invited. E. C. CORNWELL, Sec.

Winona, Minn.

UTAH.—The Utah Bee-Keepers' Association will hold their semi-annual meeting on Thursday, April 4, 1895, at 10 a.m., in the Fish Commissioner's rooms in the new city and county building, Salt Lake City.

Provo, Utah. GEO. E. DUDLEY, Sec.

WASHINGTON.—The next meeting of the Western Washington Bee-Keepers' Association will be held on Monday, April 8, 1895. Subjects of interest to bee-keepers will be discussed. Bee-keepers are invited to attend.

Tacoma, Wash. L. D. LITTOOY, Sec.

TEXAS.—The Texas State Bee-Keepers' Association will hold its 17th annual convention at the apiary of W. R. Graham, in Greenville, Tex., on Wednesday and Thursday, April 3 and 4, 1895. All interested are invited to attend. "NO HOTEL BILLS."

Ft. Worth, Tex. DR. WM. R. HOWARD, Sec.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1895, at Goodno's Hall, in Bronson, Bourbon Co., Kans. It is the annual meeting, and all members are requested to be present, and all bee-keepers are cordially invited. J. C. BALCH, Sec.

Bronson, Kans.